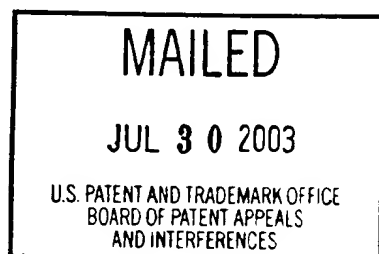


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 42

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES



**Ex parte** YASUMITSU IKEGAMI

Appeal No. 2003-0053  
Application No. 09/142,464

HEARD: July 16, 2003

Before RUGGIERO, DIXON, and SAADAT, **Administrative Patent Judges**.  
DIXON, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1, 3-7, 14 and 16-20.<sup>1</sup> Claims 8-13 and 21-26 have been withdrawn from consideration. Claims 2 and 15 have been canceled.

We REVERSE.

---

<sup>1</sup> In the Advisory Action mailed September 27, 2001 (Paper No. 28) the examiner indicated that the Amendment After Final Rejection filed September 20, 2001 (Paper No. 27, Amendment F) amending claims 1, 4, 14 and 17 would be entered upon the filing of an Appeal. And yet, the face of the file and the amendment itself, does not show that this has been done. However, since it appears that the amendment should have been entered, we will examine the claims as amended in Paper No. 27. Upon return of the application to the examining corps, this matter should be corrected as appropriate.

Appellant's invention relates to a piezoelectric resonator, method for manufacturing same and piezoelectric resonator unit. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A piezoelectric resonator, comprising:

a piezoelectric resonator element having a piezoelectric body and electrodes disposed on the piezoelectric body;

a supporting member supporting said piezoelectric resonator element; and

a plurality of leads mechanically connecting said piezoelectric resonator element to said supporting member and permitting electrical connection thereof, each of said leads being provided with a flat leading end portion having a substantially U-shaped edge which opens toward a leading end of the leads, each flat leading end portion being connected substantially in parallel with an electrode using a connecting layer formed with a conductive resin between the flat leading end portion and said electrode;

a fixing layer made of a UV-setting type resin disposed on said piezoelectric resonator having a short setting time, the fixing layer fixing the leading end portions of said leads and said piezoelectric resonator element prior to formation of said connecting layer; and

said piezoelectric resonator element being attached to the substantially U-shaped edge, on a side of said piezoelectric resonator element which faces said leads, so that an edge of said piezoelectric resonator element on the side which faces said leads may be positioned on the substantially U-shaped edge and that the piezoelectric resonator element is supported by said leads so that a gap is formed between said supporting member and said piezoelectric resonator element.

Appeal No. 2003-0053  
Application No. 09/142,464

The prior art of record relied upon by the examiner in rejecting the appealed claims is as follows:

Pennybacker	2,413,579	Dec. 31, 1946
Ogiso et al. (Ogiso '074)	5,867,074	Feb. 02, 1999
		(Filed Jan. 18, 1996) <sup>2</sup>
Ogiso et al. (Ogiso '075)	WO 95-24075	Sep. 08, 1995

Claims 1, 3-7, 14 and 16-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ogiso '075 in view of Pennybacker.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 32, mailed Feb. 11, 2002) for the examiner's reasoning in support of the rejections, and to appellant's brief (Paper No. 31, filed Dec. 31, 2002) and reply brief (Paper No. 34, filed Apr. 10, 2002) for appellant's arguments thereagainst.

### OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we make the determinations which follow.

---

Appellant references the pagination of Ogiso '074 in place of a translation of the Ogiso '075 patent which was applied by the examiner. Since appellant does not dispute the use the text of this patent based upon a national stage application which issued, we will similarly reference this document for uniformity.

With this decision, we supply a copy of a translation of the Ogiso '075 document which was prepared by FLS, Inc. for the USPTO in Sep. 2002.

Appellant argues that the examiner has not established a *prima facie* case of obviousness of the claimed invention. (See brief at pages 4-6.) Appellant argues that Ogiso teaches a "V" shaped connection and that the examiner's reliance upon Pennybacker to teach and suggest a "U" shaped connection is misplaced, and Pennybacker does not provide a motivation to modify the "V" in Ogiso to a substantially "U" shaped connection since the "V" shaped connection is used by Ogiso to limit the positioning of the bump 40 relative to the connection end 25c. (See brief at page 6.) Appellant argues that Pennybacker does not provide the required motivation to modify Ogiso. Appellant argues that Pennybacker does not teach or suggest that each of the leads being provided with a flat leading end portion having a substantially U-shaped edge which opens towards a leading edge of the leads as recited in the language of independent claim 1. (See brief at pages 6-7.) Appellant argues that the "V" shaped end of Ogiso would destroy of positioning function of the "V" shape in Ogiso. (See reply brief at page 2-3.) Therefore, appellant argues that it would not have been obvious to one of ordinary skill in the art to replace the "V" shape with a "U" shape since the "U" shaped end would allow movement which would not be conducive to positioning.

The examiner maintains at page 3 of the answer that selection from any known lead end would have been obvious to skilled artisans. While the examiner maintains that any known shape end may be used, the examiner does not provide any motivation for modifying the end of Ogiso. While we agree that the shape of the end may be

varied, the examiner merely speculates on a modification to Ogiso without regard to why Ogiso selected the specific shape disclosed and what impact a change may have on the operation and manufacturing of the device of Ogiso. Therefore we find that the examiner has not provided a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art to modify the shape of the connection end of the lead in Ogiso.

At the oral hearing appellant's representative was asked if the difference in the shape was significant to the operation of the claimed invention. Appellant's representative stated that appellant disputes the shape with respect to the motivation to modify the teachings of the prior art references applied by the examiner. Appellant's representative further stated that the shape was not as significant as the use of the "UV-setting type resin disposed on said piezoelectric resonator having a short setting time, the fixing layer fixing the leading end portions of said leads and said piezoelectric resonator element prior to formation of said connecting layer." The UV setting resin is used to tack the connection leads to the resonator body to allow a better connection of the connection layer. Furthermore, appellant's representative stated that although Ogiso does disclose the use of a UV setting resin, it is used to connect the resonator 1 in Fig. 11 to a ceramic case 32 rather than to connect to the piezoelectric element. (See answer at page 4, Ogiso at columns 9, 11 and 13.) We agree with appellant that

Appeal No. 2003-0053  
Application No. 09/142,464

since the connection to the ceramic element would not permit electrical connection as recited in the claims, this use of the UV resin would not have taught or suggested the use for connection of the U-shaped end of the connection to the resonator element.

The examiner maintains that any method steps for producing the element are irrelevant to the patentability of the product. (See answer at page 4.) We agree with the examiner with the exception that the layers within the product must still be in the final product and they must be in the claimed invention in the claimed manner and location. The examiner maintains that all the reasons for use of a UV or thermosetting epoxy for the non-conductive adhesive would be just as valid for the conductive resin. (See answer at page 4.) While this may be true, it does not address the use of both and the specific locations recited in the language of independent claim 1 as distinguished by appellant at pages 7-10 of the brief. We find that the examiner has not addressed the use of both the fixing layer and the connecting layer along with the placement thereof on the product. Therefore, we will not sustain the rejection of independent claim 1 and its dependent claims 3-7.

With respect to independent claim 14, we find the claim to have similar limitations to the connection and fixing layers of which we have previously found that the examiner has not addressed. Therefore, we will not sustain the rejection of independent claim 14 and its dependent claims 16-20.

Appeal No. 2003-0053  
Application No. 09/142,464

### CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 3-7, 14 and 16-20 under 35 U.S.C. § 103 is reversed.

### REVERSED



JOSEPH F. RUGGIERO  
Administrative Patent Judge



JOSEPH L. DIXON  
Administrative Patent Judge



MAHSHID D. SAADAT  
Administrative Patent Judge

)  
)  
)  
)  
)  
) BOARD OF PATENT  
) APPEALS  
) AND  
) INTERFERENCES  
)  
)  
)  
)

JLD/vsh

Appeal No. 2003-0053  
Application No. 09/142,464

OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320